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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/556,607	04/21/2000	Arthur Joseph Kalb	135469-200200 (P04342)	6834

7590 12/10/2003
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EXAMINER

BAYARD, EMMANUEL

ART UNIT PAPER NUMBER

2631

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/556,607

Applicant(s)

KALB, ARTHUR JOSEPH

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

1. This is in response to amendment after final filed on 8/4/03 in which claims 1-57 are pending. The finality has been withdrawn and the applicant's arguments have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Haga et al U.S.

Patent No 5,451,900.

As per claims 1, 20 and 39 Haga discloses an apparatus including a circuit for converting an analog signal to a pulse width modulated signal comprising: an integration stage (see figs. 1-2, 7-8, 11-12 and 18-20 element 10 and col.3, lines 53-65) configured to receive combine and integrate an analog input signal and a set of one or more feedback signals and in accordance therewith provide a set of one or more integrated signals; a modulation stage, (see element 30, and col.3, lines 59-65) coupled to said integration stage, configured to receive and modulate a final portion of said set of one or more integrated signals and in accordance therewith provide a

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discrete time; a first feedback stage (see element 30 and col.1, lines 13-26 and col.7, lines 43-46), coupled between said modulation stage and said integration stage, configured to receive said discrete time pulse width modulation in accordance therewith provide a first portion of said set of one or more feedback signals.

As per claims 2, 21 and 40 the apparatus of Haga does include an adder and an integration stage (see col.18, lines 52-53).

As per claims 3, 22 and 41 the apparatus of Haga inherently includes a feed forward circuit.

As per claims 4, 23 and 42 the apparatus of Haga does include a continuous integration stage (see col.14, lines 58-67)

As per claims 5, 24 and 43 the apparatus of Haga does include at least one sampled integrator circuit (see element 10).

As per claims 6, 7, 25, 26 and 44-45, the apparatus of Haga inherently includes a quantization stage.

As per claims 8, 27 and 46, the apparatus of Haga does includes a Pulse width modulation stage (see col.1)

As per claims 9, 28 and 47-49 the apparatus of Haga does include a first feedback stage having a continuous integration stage (see col.14, lines 58-67)

As per claim 10, the apparatus of Haga does include a first feedback stage having a discrete time (see col.1).

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As per claims 11, 29-30 the apparatus of Haga does include a first feedback stage having a filter (see col.11, line 27)

As per claims 12, 31 and 50 the apparatus of Haga inherently includes a second feedback stage and a quantization stage and a integration stage .

As per claims 13, 32 and 51 the apparatus of Haga inherently includes a second adder.

As per claims 14, 33 and 52 the apparatus of Haga does include a continuous integration stage (see col.14, lines 58-67).

As per claims 15, 16, 34-35 and 53-54 the apparatus of Haga inherently includes a quantization stage.

As per claims 17, 36 and 55, Haga does includes a Pulse width modulation stage (see col.1).

As per claims 18, 37 Haga does include a first feedback stage having a continuous integration stage (see col.14, lines 58-67).

As per claims 19, 38 and 56-57 the apparatus of Haga does include a first feedback stage and a second feedback stage and a filter (see figs 1, 2 and col.11, line 27).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee U.S. patent No 5,994,852 teaches a wide band high voltage.

Hoyt et al U.S. Patent No 6,587,670 B1 teaches a dual mode class D amplifiers.

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Ho et al U.S. Patent No 6,275,177 B1 teaches a sigma delta modulator.

Maejima U.S. Patent No 5,940,019 teaches a delta sigma converter.

Lai et al U.S. Patent No 5,886,586 teaches a general constant frequency pulse width modulators (*).

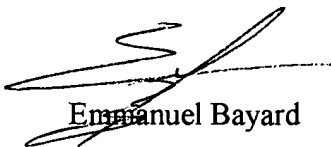
Kim U.S. Patent NO 5,519,361 teaches a pulse width controller (*).

Hak U.S. Patent NO 5,747,947 teaches a gain controlled signal (*).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour , can be reached on (703) 306-3034. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Emmanuel Bayard

Primary Examiner

December 8, 2003